

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. APPLICATION NO.: 09/422,347
ATTORNEY DOCKET NO. Q56325

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) A compression device for compressing a list of final destination addresses for a multicast message, wherein each final destination address in said list represents a different final destination host, wherein said compression device comprising:

~~a detector that~~ detects a common prefix in at least two different final destination addresses from said list of final destination addresses,

~~a generator that~~ generates a suffix list for final destination addresses from said list of final destination addresses that are detected to have a common prefix, wherein said suffix list represents the non-identical portions of said final destination addresses detected to have a common prefix, and

~~an adder that~~ adds said suffix list to said common prefix to create a compound destination address consisting of compressed final destination addresses for said multicast message.

2. (*Previously Presented*) The device for compressing according to claim 1, wherein said list of destination addresses comprises Internet Protocol addresses.

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3. (*Previously Presented*) The device for compressing according to claim 1, wherein said list of destination addresses comprises Internet Protocol addresses and other compound destination addresses.

4. (*Previously Presented*) The device for compressing according to claim 1, wherein said list of destination addresses comprises previously compressed compound destination addresses.

5. (*Previously Presented*) The device for compressing according to claim 1, wherein said device is incorporated in a host of a communications network having connectionless multicast transmission capabilities.

6. (*Previously Presented*) The device for compressing according to claim 1, wherein said device is incorporated in a router of a communications network having connectionless multicast forwarding capabilities.

7. (*Currently Amended*) A method for compressing a list of final destination addresses for a multicast message, wherein each final destination address in said list represents a different final destination host, said method comprises:

detecting a common prefix in at least two different final destination addresses from said list of final destination addresses,

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generating a suffix list for final destination addresses from said list of final destination addresses that are detected to have a common prefix, wherein said suffix list represents the non-identical portions of said final destination addresses detected to have a common prefix, and adding said suffix list to said common prefix to create a compound destination address consisting of compressed final destination addresses for said multicast message.

8. (*Cancelled*).

9. (*Previously Presented*) A router according to claim 6, wherein said router further comprises:

a routing table memory, and
an addressing device to address said routing table memory via a compound address having the same format as said compound destination address.

10. (*Cancelled*).

11. (*Currently Amended*) The device for compressing according to claim 1, wherein said compression device detector detects octet-aligned prefixes.

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12. (*Currently Amended*) The device for compressing according to claim 1, wherein said compression device detector detects nibble-aligned prefixes.

13. (*Currently Amended*) The device for compressing according to claim 1, wherein said compression device detector detects bit-aligned prefixes.

14. (*Previously Presented*) The method for compressing according to claim 7, wherein detecting a common prefix further comprises detecting octet-aligned prefixes.

15. (*Previously Presented*) The method for compressing according to claim 7, wherein detecting a common prefix further comprises detecting nibble-aligned prefixes.

16. (*Previously Presented*) The method for compressing according to claim 7, wherein detecting a common prefix further comprises detecting bit-aligned prefixes.

17. (*Currently Amended*) The device for compressing according to claim 1, wherein said compression device detector, said generator and said adder iteratively compresses compress said list of final destination addresses.

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18. (*Previously Presented*) The method for compressing according to claim 7, wherein the detection of a common prefix, the generation of a suffix list and the adding of the suffix list to the common prefix is iteratively performed for said list of final destination addresses.

19. (*Previously Presented*) A communications network comprising:
a host that generates multicast packets, wherein said host comprises a device for compressing a list of final destination addresses according to claim 1, and forwards compressed ; and

a router connected to said host, wherein said router receives a compound destination address created by said host and derives the common prefixes from said compound destination address to determine the next hop for each common prefix.

20. (*Currently Amended*) The communications network according to claim 19, wherein said router comprises a compression device for compressing a list of derived common prefixes and their respective suffixes, wherein said compression device comprising:
~~a generator that generates a suffix list that represents non-identical portions for each of said common prefixes derived from said received compound destination address, and~~
~~an adder that adds said respective suffix list to each of said derived common prefixes to create a new compound destination address consisting of compressed final destination addresses.~~